

WHAT IS CLAIMED IS:

1. A light-emitting material including diplophase compound that is expressed in the following general formula:

(Sr, Eu, Dy) $_{0.95 \pm x}$ (Al, B) $_{2}O_{3.95 \pm x}$ (Sr, Eu, Dy) $_{4-x}$ (Al, B) $_{14}O_{25-x}$
(in the formula, x=0.01 to 0.1, a content of B element is 0.2 to 1.0 % by weight, a content of Eu is 0.5 to 3.0 % by weight and a content of Dy is 0.1 to 3.0 % by weight).

2. A light-emitting material according to claim 1, wherein said diplophase compound comprises symbiotical phase (Sr, Eu, Dy) $_{0.95 \pm x}$ (Al, B) $_{2}O_{3.95 \pm x}$ from (Sr, Eu, Dy) $_{4-x}$ (Al, B) $_{14}O_{25-x}$.

3. A light-emitting material according to claim 1, wherein Al-O tetrahedron and Al-O octahedron concurrently exist in said diplophase compound.

4. A light-emitting material according to claim 1, wherein BO₃ triangular arrangement substitute a part of Al-O octahedron in said diplophase compound.

5. A light-emitting material according to claim 1, wherein boron exists entirely in said diplophase compound crystalline.

6. A producing method of a light-emitting material of claim 1, comprising

(1) step for measuring previously pulverized raw materials, and mixing them to obtain a mixture of raw material,

(2) step for putting the mixture into a container, heating the mixture from 850°C to 1200°C for three hours under a reduction condition, keeping the temperature for five to six hours, thereby obtaining a sintered body,

(3) step for stopping the heating operation and cooling the sintered body nature down to a room temperature, and

(4) step for pulverizing the sintered body to obtain a product.

7. A producing method of a light-emitting material according to claim 6, wherein said previously pulverized raw materials are SrCO₃, Al₂O₃, H₃BO₃, Eu₂O₃, and Dy₂O₃.

8. A producing method of a light-emitting material according to claim 6 or 7, wherein in said step (2), reduction is carried out using carbon powder.

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